v2.000

UMTS Rel. 4, 5 and 6 Core Network Architecture & Signaling
BICC, VoIP, PoC, IMS & SIP

Course Duration:

3 days

Course Description:

- This course focuses on the detailed description of the UMTS core network architecture with Rel. 4 and particularly with Rel. 5 and 6.
- Most importantly, the course ties a detailed analysis of the new call control and mobility management protocols like SIP or BICC into the presentation of the all-IP core network architecture in Rel. 4 and 5.
- This approach allows the student an easy comprehension of the necessity and advantages of the new network architecture in UMTS Rel. 4, 5 and 6 as well as an easy understanding of the new protocol procedures with SIP and SDP.
- This includes a presentation of PoC-operation within the 3GSM-environment.
- The course concludes with a presentation of the IP Multimedia Subsystem (IMS) and its various components.

As in all INACON courses we integrated several interactive exercises for a perfect learning experience.

Pre-Requisites:

- The student needs to have *detailed* knowledge about all generic aspects of UMTS Rel. 99 like the network architecture, the QoS-concept and the signal processing chain.
- It is strongly recommended to take our course “UMTS – Signaling & Protocol Analysis (Core Network)” in advance.
- The student also needs detailed knowledge about the TCP/IP protocol stack. It is strongly recommended to take our courses “Introduction to the TCP/IP Protocol Suite” and “Advanced TCP/IP – Design Details & System Operation” in advance.

Course Target:

- The student is enabled to fully understand the implications of implementing the new UMTS network architecture with Rel. 4, 5 and 6.
- The student will fully understand the new IP Multimedia Subsystem architecture and the related procedures.
- The student will know about the operation and related procedures of PoC (Push-to-talk over Cellular)
- The student will have an overview of the different VoIP-protocols and a detailed understanding of the messaging and procedures of SIP, SDP and RTP, with focus on UMTS.

Some of your questions that will be answered:

- What are the advantages and implications of the new Rel .4 network architecture?
- What is the IMS?
- How does SIP work and how is it used in UMTS Rel. 5?

Who should attend this class ?

- Everybody who requires detailed knowledge of the UMTS Rel. 4, 5 and 6 core network architecture and protocols.
- Engineers and technicians who need to understand the operation of SIP and SDP within the environment of the IMS and PoC (Push-to-talk over Cellular).

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⇒ Example of an RTP-Frame
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The H.323-Protocol and Network Architecture

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⇒ Applicability of this Procedure
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The ”Brave New World” of Communications

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The New Circuit-Switched CN Architecture with Release 4

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New Features with Release 5

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H.324M

H.323

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Facts Sheet IMS-MGW (IMS-Media Gateway)
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NOTIFY
PRACK
REFER
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The “Contact:” Header Field

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⇒ Registration

⇒ Registration: Message Flow
Initial Conditions
Applicability of this Procedure
Description

⇒ Call Setup between two SIP-Users on Different Networks

⇒ Call Setup Procedure: Message Flow
Initial Conditions
Applicability of this Procedure
Description

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References